Faculty Working Papers

THE EFFECTS OF COMPETITIVE FAILURE AND SELF-ESTEEM ON SATISFACTION AND TASK PERFORMANCE

David J. Cherrington

#75

College of Commerce and Business Administration
University of Illinois at Urbana-Champaign

FACULTY WORKING PAPERS

College of Commerce and Business Administration

University of Illinois at Urbana-Champaign

December 5, 1972

THE EFFECTS OF COMPETITIVE FAILURE AND SELF-ESTEEM ON SATISFACTION AND TASK PERFORMANCE

David J. Cherrington

#75

THE EFFECTS OF COMPETITIVE FAILURE AND SELF-ESTEEM ON SATISFACTION AND TASK PERFORMANCE[1]

David J. Cherrington
University of Illinois

Manuscript and proof copies should be sent to David J. Cherrington, Department of Business Administration, University of Illinois, Urbana, Illinois 61801.

ABSTRACT

It was predicted that the effects of competitive failure on satisfaction are mediated by self-esteem. Two groups of 24 Ss, a high and a low self-esteem group, were drawn from a larger population according to the discrepancy between their real self and ideal self as reported on semantic differential scales. Two reinforcement conditions, competitive and independent, were created by making a $2.00 reward ostensibly contingent upon their performance relative to each other or a fixed standard. As predicted, there were no significant differences between the high and low self-esteem Ss' general satisfaction scores in the independent condition, but in the competitive condition, low self-esteem Ss reported significantly less general satisfaction than high self-esteem Ss. High self-esteem Ss also reported more internal control of their rewards on an internal-external control scale. It was concluded that the effects of competition can be mediated by self-esteem and suggested that self-esteem is a function of the individual's reinforcement history.

Competition and cooperation have been studied for over 70 years yet the reported effects of competition have been mixed and equivocal. Various attempts have been made to interpret and explain these diverse findings by examining the task interdependency (Miller and Hamblin, 1963), the motive to compete (McClintock and Nuttin, 1969; Messick and McClintock, 1968; Messick and Thorngate, 1967), the type of outcomes (Gallo, 1968; McClintock and McNeel, 1966, 1967; Oskamp and Kleinke, 1968; Radlow, Weidner, and Hurst, 1968), and the reinforcement contingencies (Cherrington, in press; Cherrington and Scott, in press). This study postulated that a sizable percent of the variance is also attributable to interpersonal differences and that the effects of competition are mediated specifically by self-esteem.

Competition has been assailed on one hand as the major cause of greed, envy, and suspicion in society (Horney, 1939, p. 173). "When its dog-eat-dog, everybody may starve (Nelson and Kagon, 1972, p. 53)." It has been reported in some studies of competition that in contrast to cooperation, competition causes greater unfriendliness and personal insecurity (Deutsch, 1949); more negative attitudes about the task and less liking for each other (Jones and Vroom, 1964); higher tension, poorer achievement, and less overall satisfaction (Haines and McKeachie, 1967); less cohesiveness, and greater antagonism (Grossack, 1954); and irrational behavior (Nelson and Kagon, 1972).

On the other hand, competition has been heralded as a desirable process to increase motivation (Shaw, 1958); and to develop greater interpersonal relationships, and adjustment (Myers, 1962; Julian, Bishop, and Fiedler, 1966; Fiedler, 1967), and group cohesiveness (Fiedler, 1967).

It has also been suggested that the desire to compete is a natural consequence of an individual's need to compare his abilities and establish a level of aspiration. The theory of social comparison processes (Festinger, 1954; Jones and Gerard, 1967, pp. 361-367) argues that when there is no clear standard for evaluation, the absence of information regarding the quality of one's performance causes the person's self-estimate to be unstable which will lead the individual to seek feedback. Thus, people measure ability by social comparisons and establish a level of aspiration from the feedback they obtain. Consequently, the desire to compare abilities can lead individuals to seek conditions of competition as reported by Dryer (1954), Greenberg (1932), Philp (1940), and Whittmore (1925).

It has been suggested (Cherrington, in press) that the dissatisfaction caused by some forms of competition is mediated by an individual's ability to adjust to the situation. This notion suggests that some personality characteristic such as social maturity or general adjustment mediates the deleterious effects of competition. This notion is based upon the assumption that scarce resources exist as a part of reality and an individual's ability to adjust to that fact or accept it is related to his psychological growth and adjustment. It follows that if certain forms of competition are inevitable aspects of reality, then individuals who are "better adjusted" should recognize more clearly the realities of a fixed sum world and report less dissatisfaction in competition. This should be particularly true in conditions of competitive failure where better adjusted individuals should be influenced less by failure and more able to tolerate the loss or accept defeat.

One fairly consistent conclusion which comes from the studies of self-esteem is that the discrepancy between one's real self-concept and ideal-self is an index of psychological health. Rogers and his colleagues (Rogers and Dymond, 1955) have been largely responsible for establishing the notion of general self-evaluation (regarding the discrepancy between the ideal-self and self-concept) in the area of self-concept theory. Basically, the larger the discrepancy between one's ideal-self and self-concept, the greater will be the degree of personality maladjustment. Research supporting this view has been reported by Block and Thomas (1955), Butler and Haigh (1955), Chodorkoff (1954), Hanlon, Hofstaetter, and O'Connor (1954), Shiino (1966), and Smith (1958).

Regardless of whether one takes a phenomenological approach to understanding the self (Snygg, 1941) a more subjective approach (Smith, 1950), or a more behavioristic approach, it is generally accepted that self-esteem is learned from experience. Positive self-esteem, it is postulated, comes from positive experiences or rewarding outcomes under conditions of consistent reinforcement contingencies (Andrews, 1966; Borislow, 1962; Denmark and Guttentag, 1966; and Rotter, 1966).

Thus it was predicted that self-esteem is related to the control an individual perceives he has over his reward contingencies and that his level of self-esteem moderates the effects of competitive failure on measures of satisfaction.

Methodology

Subjects. The subjects were 48 undergraduate students both male and female enrolled in an introductory business course. Earlier in the semester the entire class of 328 students had responded to a questionnaire designed to measure personal growth and adjustment.[2] Two of the scales on that

instrument, Affective Self-Evaluation and Interpersonal Competence, were used to identify a high self-esteem group and a low self-esteem group.[3] The high self-esteem Ss were selected from the list of Ss who had a small discrepancy score between their ideal-self vs. real-self on both of these scales.[4] Low self-esteem Ss were selected from the list of Ss who had a large discrepancy score on both of these scales.

Ss were recruited for the experiment, by letters which were sent to about 30 Ss in both the high and low self-esteem groups asking them to participate in a research study which was examining the effects of task performance on attitudes. The letter hinted that they might receive payment if research money could be obtained. After the letters were sent the Ss were never again identified as being in either the high or low self-esteem condition until the results were analyzed after the semester ended. If a S asked why he was selected he was told that the sample had been handpicked to avoid a possible bias of self-selection.

Procedure and Task. Ss reported for the study in groups of four. The task they were to perform was explained to them until all understood how it was to be performed. The task was a simple collation task of putting together 225 copies of a 56-page report by having each S collate 14 pages in a room isolated from other Ss. The 14 stacks of 225-pages were placed on a table such that the S could walk around the table and assemble a set of one page from each stack. S then passed each set of 14 pages through a slot in the wall into the control room where his work was checked and recorded. Following the task instructions the competitive and independent reinforcement manipulations were introduced. The competitive and independent conditions were created by making reward ostensibly contingent upon performance by the following statements.

Competitive condition. "My request for research money did not come through, but I've decided to pay half of you $2.00 out of my own pocket anyway. I've decided to reward the two best performers so you'll be encouraged to do your best. The two who collate the most without making any mistakes will each get $2.00. The other two will only get a few pleasant words of appreciation."

Independent condition. "My request for research money didn't come through, but I've been pursuaded by the girls in our secretarial pool to pay you out of my own pocket if you exceed the standard rate for collating. I suppose it's only fair since you're doing real work for me and it should encourage you to work harder. So I'll give $2.00 to anyone who makes the standard rate with no errors. I think it is a reasonable standard and you each should have a 50:50 chance of making it. You'll be working alone, so you each have a chance of getting either $2.00 for your efforts or only a few pleasant words of appreciation."

After S completed the task, E entered the room and informed S that he would not receive $2.00 because it had taken him so long to complete the task but that he would get a few friendly words of appreciation after he marked a questionnaire. During the task 6 Ss essentially quit and E returned to their room to ask how they were doing. When they were reassured that they were participating in a real experiment five of them continued and finished the task. The other one quit and was not included in this sample. Two other Ss in the independent condition did not quit but were working at such a slow pace that they were stopped at the end of 3 hours and asked to mark a questionnaire.

Dependent measures. The performance score for each S was the length of time (in minutes) it took to complete the task. The Ss were instructed

not to make any errors and the quality of each S was checked periodically to make certain that the S was performing the task correctly. Thus the quality of performance was held fairly constant and the performance scores were measures of speed.

The questionnaire which the Ss were asked to complete was a self-report measure of satisfaction developed by Scott and his colleagues (Scott, 1967; Scott and Rowland, 1970). The format of the self-report measure was a semantic differential questionnaire as shown below. Bipolar adjective pairs were set against three concepts: Me At This Task, My Fellow Workers, and The Task. The responses to each scale were scored from one to seven with seven assigned to that response which appeared to indicate the most preferred condition. A factor score was computed for each S by averaging the S's responses to each of the scales previously found to comprise that factor.

ME AT THIS TASK

	Extremely	Quite	Slightly	Neither one nor the other	Slightly	Quite	Extremely	
Appreciated	_____	_____	_____	_____	_____	_____	_____	Unappreciated
Bored	_____	_____	_____	_____	_____	_____	_____	Interested
Efficient	_____	_____	_____	_____	_____	_____	_____	Inefficient

Five factor scores were computed for each S. The General Affective Tone score was obtained by averaging the S's responses to the following bipolar scales set against the concept, Me At This Task: appreciated-unappreciated, rewarded-penalized, satisfied-dissatisfied, and encouraged-discouraged. The remaining self-report measures and the semantic scales defining each factor were as follows--General Arousal (Me At This Task): interested-bored, spirited-lifeless, and alert-listless; Personal Competence

(Me At This Task): efficient-inefficient, productive-unproductive, reliable-unreliable, and effective-ineffective; Interpersonal Attractiveness (My Fellow Workers): sociable-unsociable, helpful-obstructive, pleasant-unpleasant, unselfish-selfish, and cooperative-uncooperative; Task Attractiveness (My Task): attractive-repulsive, exciting-dull, good-bad, interesting-boring, superior-inferior, and wholesome-unwholesome.

In addition to measures of performance and satisfaction, three additional factor scores were computed for each S from his responses to 41 internal vs. external locus of control scales. These scales were 41 items which had been developed by Rotter (1966) and Gurin, Gurin, Lao, and Beatie (1969(and had been administered to a class of 328 students. The responses for the 328 students were factor analyzed using a principal components-principal axis factor analysis and orthogonally rotated using Kaiser's varimax solution. The three factor scores for each S were computed from the factor loadings. The first factor was labeled Personal Control-Control Ideology since the items which had high factor loadings on this factor were the same as the items on the Personal Control factor and Control Ideology factor reported by Gurin et. al., (1969). This first factor measured the respondent's ideology or general beliefs about the role of internal and external forces in determining success and failure or the rewards which accrue to him either his own personal life or in society at large. The second factor was labeled Blame for Racial Discrimination since the items which had high factor loadings on this factor were the same as the items on the Individual vs. System Blame factor and the Racial Militancy factor reported by Gurin et. al., (1969). This second factor measured the respondent's assessment of the causes for racial discrimination; whether the blame should be placed upon the nature of our social system or the individuals which comprise it, and also an

of self-esteem ($p < .01$). High self-esteem Ss reported significantly greater General Affective Tone scores than low self-esteem Ss (4.08 vs. 3.49, respectively, on a 1.00 = low to 7:00 = high scale). It had been predicted that in the independent reinforcement condition the General Affective Tone scores of high self-esteem and low self-esteem Ss would not be significantly different. As predicted the means for these two groups (4.19 and 3.81) were not significantly different. In the competitive reinforcement condition, however, it had been predicted that the General Affective Tone scores of high self-esteem Ss would be significantly greater than low self-esteem Ss. Using a planned comparison between cell means test (see Hays, 1963, pp. 462-468) it was found that General Affective Tone scores of high self-esteem Ss were significantly greater than low self-esteem Ss (the means were 3.98 vs. 3.17 on a 1 = low to 7 = high scale; $F_{1,22} = 6.4$, $p \leq .02$).

The mean General Arousal scores of Ss in the competitive reinforcement condition indicated that they reported greater arousal and excitement than the Ss in the independent reinforcement condition. However, the analysis of variance was not significant at the .05 level.

The analysis of variance among the Ss Personal Competence scores indicated that there was a significant main effect of self-esteem. As predicted, the mean Personal Competence scores of high self-esteem Ss were significantly greater than the mean scores of low self-esteem Ss (4.94 vs. 4.22, $p < .005$). There was not an interaction effect nor a main effect of reinforcement.

There were no significant main or interaction effects among the Interpersonal Attractiveness scores. Among the Task Attractiveness scores, however, the analysis of variance indicated that there was a significant

main effect of reinforcement condition. The mean Task Attractiveness scores of Ss in the competitive reinforcement condition were significantly greater than in the independent condition (2.80 vs. 1.98, $p < .02$).

Locus of control. The analysis of variance among the three internal vs. external locus of control measures indicated that there were no significant differences among the means of the reinforcement condition. Since the Ss were assigned to the reinforcement conditions independent of their locus of control scores significant differences in the means of the reinforcement conditions were not expected.

Between the high and low self-esteem means, however, there were significant differences on two of the three factor scores. As contrasted with the low self-esteem group, the high self-esteem Ss reported significantly greater internal scores on the Personal Control-Control Ideology factor (.84 vs. .51, $p < .005$) and System Modifiability factors (.81 vs. 1.04, $p < .05$; low scores on System Modifiability correspond with internal control and high scores indicate external control). There were no significant differences, however, among the mean Blame for Racial Discrimination scores.

Discussion

In the independent reinforcement condition where the Ss were not competing against each other it had been predicted that there would be no significant differences in the General Affective Tone scores. In the competitive condition, however, Ss with low self-esteem were expected to report significantly less General Affective Tone scores. These predictions were supported by the results presented here. For both the high and low self-esteem groups in the independent reinforcement condition and for the high self-esteem competitive condition the three cell means were

not significantly different. However, the low self-esteem Ss who suffered a competitive failure reported significantly lower satisfaction scores. All of the Ss were told that they had failed to obtain a reward which they were told they had a 50:50 chance of obtaining. However, the low self-esteem Ss in intragroup competition were more influenced by this loss in terms of their General Affective Tone scores.

These results were consistent with the theoretical speculations of Cherrington (in press) that the dissatisfaction caused by some forms of competition is mediated by such personality characteristics as psychological growth and adjustment. This idea is based upon the fact that everyone can't be the fastest runner, the best student, the fastest collater, or have the most of some scarce resource, etc. The recognition of this reality and one's ability to adjust to it has been associated with greater psychological health (Glasser, 1965) and Rogers has tied personality adjustment to the congruency between one's ideal-self and real-self.

The Personal Competence scores were generally similar to their General Affective Tone scores. The responses were different to the extent that the low self-esteem Ss in both reinforcement conditions reported significantly less Personal Competence scores than the high self-esteem Ss. These results are consistent with the findings of Silverman (1964) who reported that high self-esteem students are more responsive to success experiences than to failure, while low self-esteem individuals show the opposite effects. Rogers (1959) has speculated that the reason why low self-esteem individuals are more influenced by failure is because individuals with high self-esteem have developed an internal locus of evaluation and for this reason they are less susceptible to social influence.

Rotter (1966) has shown that an individual's generalized expectation of internal versus external control of reinforcement is a fairly stable characteristic and has speculated that it is determined by the reinforcement contingencies and history of reward schedules which an individual experiences. These same experiences of success and failure are presumed to be the determiners of self-esteem. Cyert and MacCrimmon (1968, p. 586), for example, have claimed that in order for an individual to achieve high self-esteem he must be able to control his immediate environment. How can he achieve self-actualization, they ask, if others are determining his outcomes and behaviors? Because of the similarity in these two conceptual developments the Ss responses to the internal vs. external locus of control scales were examined to see if high self-esteem individuals who have supposedly had more success experiences also perceived greater control over the reinforcement contingencies within their environment. The results of this study supported that notion. High self-esteem individuals reported a significantly more internal orientation on both the Personal Control-Control Ideology factor and the System Modifiability factor. Thus low self-esteem individuals apparently perceived themselves and others as having significantly less influence and control over their outcomes and felt less capable of modifying their social system. High self-esteem individuals on the other hand, perceived themselves and others as having greater influence and control over their outcomes and felt more capable of modifying their social system. There were no significant differences between the high and low self-esteem groups on the Blame for Racial Discrimination factor. This result is not surprising due to the complex nature of racial discrimination and the ambiguity in the solutions which have been proposed.

The results of Interpersonal Attractiveness scores indicated that in the competitive reinforcement condition the Ss did not report less Interpersonal Attractiveness. There were two possible reasons for not finding significant differences. First, the Ss were working alone in separate rooms and except for a short period of task instruction they did not associate with their fellow workers. Lott and Lott (1965), have suggested, however, that such a limited time span would be adequate to find significant differences since interpersonal attraction can be influenced simply by the psychological presence of another. Therefore, a second explanation for not finding significant differences in the Interpersonal Attractiveness scores was that competition doesn't necessarily cause a loss in interpersonal relations. Cherrington (1970) reported significant differences in Interpersonal Attractiveness in conditions of intragroup vs. intergroup competition, but there were no significant differences between intragroup competition and an individualistic condition where the Ss were competing against a fixed external standard. These results suggest that some aspect of intergroup competition, such as social reinforcement from greater group cohesiveness or the fact that everyone is rewarded equally, accounts for the effects of competition on Interpersonal Attractiveness.

The results indicated that the performance scores of Ss in the competitive condition were significantly faster than in the independent condition. Previous studies have reported mixed performance results. Some studies have found increased performance in conditions of intragroup competition (e.g., Julian and Perry, 1967; Maller, 1929) while others have found decreased performance (e.g., Deutsch, 1949; Hammond and Goldman, 1961). Three different mechanisms have been proposed to account for

performance differences in competitive conditions: (a) response (or task) interdependencies which facilitate or hinder the performance of other task performers (Miller and Hamblin, 1963); (b) different probabilities that the individuals will divide their labor during the task (Jones and Vroom, 1964); and (c) different kinds or amounts of motivation to produce (Cherrington, 1970). The nature of the task, along with the somewhat greater arousal and excitement reported by Ss in the competitive conditions, suggested that the performance differences were attributable to differential motivation. These results are consistent with Shaw's (1958) conclusion that competition creates greater motivation and, hence, greater productivity.

Previous studies on competition have been particularly equivocal regarding the effects of competition on attitudes toward the task. Cherrington and Scott (in press) and Cherrington (in press) have suggested that positive or negative attitudes toward the task can be predicted from a reinforcement analysis. The experimental task most likely to result in the greatest reinforcement will be preferred. If the task is essentially identical in competitive and cooperative conditions no significant differences in task attractiveness would be expected. But if the task in either condition contributed added reinforcers (e.g., better coordination and friendly conversation in cooperation or ability comparison and competitive success in competition) then significant differences to be expected.

In the present study, greater task attractiveness was reported by Ss in the competitive condition. All of the means were low as would be anticipated from the performance of a simple repetitive task. But apparently the competitive relationship perceived by the Ss in the

competitive condition provided a positive reinforcer alleviating the boredom of the task. Myers (1962) has similarly reported greater task attractiveness among competitive groups participating in an ROTC recreational rifle tournament. For the competitive groups, competition was probably anticipated and expected which added an element of interest into what must have been a routine requirement for those in cooperation.

REFERENCES

Andrews, R. J. The self-concept and pupils with learning difficulties. Slow Learning Child, 1966, 13, 47-54.

Block, J., & Thomas, H. Is satisfaction with self a measure of adjustment? Journal of Abnormal Social Psychology, 1955, 51, 254-259.

Borislow, B. Self-evaluation and academic achievement. Journal of Counseling Psychology, 1962, 9, 246-254.

Butler, J. M., & Haigh, G. V. Changes in the relation between self-concepts and ideal concepts consequent upon client-centered counseling. In C. R. Rogers and R. F. Dymond (Eds.), Psychotherapy and personality change. Chicago: University of Chicago, 1955, Pp. 55-75.

Cherrington, D. J. The effects of competition and financial rewards on satisfaction and task performance. An unpublished doctoral dissertation, Indiana University, 1970.

Cherrington, D. J. Satisfaction in competitive conditions. In press.

Cherrington, D. J. , & Scott, W. E. The effects of competitive, cooperative, and individualistic, reinforcement contingencies. In press.

Chodorkoff, B. Adjustment and the discrepancy between the perceived and ideal self. Journal of Clinical Psychology, 1954, 10, 266-268.

Cyert, R. M., & MacCrimmon, K. R. Organizations. In G. Lindzey and E. Aronson (Eds.), The handbook of social psychology, (2nd ed.) Vol. I. Reading, Mass: Addison-Wesley, 1968, Pp. 568-614.

Denmark, F., & Guttentag, M. The effect of college attendance on mature women: Changes in self-concept and evaluation of student role. Journal of Social Psychology, 1966, 69, 155-158.

Deutsch, M. An experimental study of the effects of cooperation and competition upon group process. Human Relations, 1949, 2, 199-231.

Dreyer, A. Aspiration behavior as influenced by expectation and group comparison. Human Relations, 1954, 7, 175-190.

Festinger, L. A theory of social comparison processes. Human Relations, 1954, 7, 117-140.

Fiedler, F. E. The effect of intergroup competition on group member adjustment. Personnel Psychology, 1967, 20, 33-44.

Gallo, P. S. Prisoners of our own dilemma? Paper presented at the meeting of the Western Psychological Association, San Diego, April 1968.

Glasser, W. Reality therapy. New York: Harper and Row, 1965.

Greenberg, P. J. Competition in children: An experimental study. American Journal of Psychology, 1932, 44, 221-248.

Grossack, M. Some effects of cooperation and competition on small group behavior. Journal of Abnormal and Social Psychology, 1954, 49, 341-348.

Gurin, P., Gurin, G., Lao, R. C., & Beatie, M. Internal-external control in the motivational dynamics of Negro youth. Journal of Social Issues, 1969, 25 (3), 29-53.

Haines, D. B., & McKeachie, W. J. Cooperative versus competitive discussion methods in teaching introductory psychology. Journal of Educational Psychology, 1967, 58, 386-390.

Hammond, L. K., & Goldman, M. Competition and non-competition and its relationship to individual and group productivity. Sociometry, 1961, 24, 46-60.

Hanlon, T. E., Hofstaetter, P. R., & O'Connor, J. P. Congruence of self and ideal self in relation to personality adjustment. Journal of Consulting Psychology, 1954, 18, 215-218.

Hays, W. L. Statistics for psychologists. New York: Holt, Rinehart, and Winston, 1963.

Horney, K. New ways in psychoanalysis. New York: Norton, 1939.

Jones, E. E., & Gerard, H. H. Foundations of social psychology. New York: John Wiley and Sons, 1967.

Jones, S. C., & Vroom, V. H. Division of labor and performance under co-operative and competitive conditions. Journal of Abnormal and Social Psychology, 1964, 68, 313-320.

Julian, J. W., Bishop, D. W., & Fiedler, F. E. The quasi-therapeutic effects of squad competition. Journal of Personality and Social Psychology, 1966, 30, 321-327.

Julian, J. W., & Perry, F. A. Cooperation contrasted with intra-group and inter-group competition. Sociometry, 1967, 30, 79-90.

Lott, A. J., & Lott, B. E. Group cohesiveness as interpersonal attraction: A review of relationships with antecedent and consequent variables. Psychological Bulletin, 1965, 64, 259-309.

Maller, J. B. Cooperation and competition: An experimental study in motivation. Teachers College, Columbia University Contributions to Education, 1929, No. 384. Cited by J. W. Julian and F. A. Perry, Cooperation contrasted with intra-group and inter-group competition. Sociometry, 1967, 30, 79-90.

McClintock, C. G., & McNeel, S. P. Reward and score feedback as determinants of cooperative and competitive game behavior. Journal of Personality and Social Psychology, 1966, 4, 606-613.

McClintock, C. G., & McNeel, S. P. Prior dyadic experience and monetary reward as determinants of cooperative and competitive game behavior. Journal of Personality and Social Psychology, 1967, 5, 282-294.

McClintock, C. G., & Nuttin, J. M. Development of competitive game behavior in children across two cultures. Journal of Experimental Social Psychology, 1969, 5, 203-218.

Messick, D. M., & McClintock, C. G. Motivational bases of choice in experimental games. Journal of Experimental Social Psychology, 1968, 4, 1-25.

Messick, D. M., & Thorngate, W. B. Relative gain maximization in experimental games. Journal of Experimental Social Psychology, 1967, 3, 85-101.

Miller, L. K., & Hamblin, R. L. Interdependence, differential rewarding and productivity. American Sociological Review, 1963, 28, 768-778.

Myers, A. E. Team competition, success, and adjustment of group members. Journal of Abnormal and Social Psychology, 1962, 65, 325-332.

Nelson, L. L., & Kagan, S. Competition: The star-spangled scramble. Psychology Today, September 1972, 53-57, 90.

Oskamp, S., & Kleinke, C. Amount of reward as a variable in the prisoners dilemma game. Paper presented at the meeting of the California State Psychological Association, Santa Barbara, January 1968.

Philp, A. J. Strangers and friends as competitors and cooperators. The Journal of Genetic Psychology, 1940, 57, 249-258.

Radlow, R., Weidner, M. F., & Hurst, P. M. The effect of incentive magnitude and "motivational orientation" upon choice behavior in a two-person non-zero-sum game. Journal of Social Psychology, 1968, 74, 199-208.

Rogers, C. R. A theory of therapy, personality, and interpersonal relationships, as developed in the client-centered framework. In S. Koch (Ed.), Psychology: A study of a science. Vol. 3. New York: McGraw-Hill. 1959, Pp. 184-256.

Rogers, C. R., & Dymond, R. F. (Eds.) Psychotherapy and personality change. Chicago: University of Chicago, 1955.

Rotter, J. B. Generalized expectancies for internal versus external control of reinforcement. Psychological Monographs, 1966, 80, No. 1. (whole No. 609).

Shaw, M. E. Some motivational factors in cooperation and competition. Journal of Personality, 1958, 26, 155-169.

Shiino, N. Studies of the self-concept as the indices of adjustment. Japanese Journal of Educational Psychology, 1966, 14 (3), 37-44.

Silverman, I. Self-esteem and differential responsiveness to success and failure. Journal of Abnormal and Social Psychology, 1964, 69, 115-119.

Smith, G. M. Six measures of self-concept discrepancy and instability: Their interrelations, reliability, and relations to other personality measures. Journal of Consulting Psychology, 1958, 22, 101-112.

Smith, M. B. The phenomenological approach in personality theory: Some critical remarks. Journal of Abnormal and Social Psychology, 1950, 45, 516-522.

Snygg, D. The need for a phenomenological system in psychology. Psychological Review, 1941, 48, 404-424.

Whittemore, I. C. The competitive consciousness. Journal of Abnormal Psychology, 1925, 20, 17-33.

FOOTNOTES

1. This project was partially supported by the Bureau of Economics and Business Research of the College of Commerce and Business Administration, University of Illinois. Grateful appreciation is expressed for their assistance and cooperation.
2. This questionnaire was designed by the author to measure the personal growth and adjustment of Job Corpsmen as they progressed through the Job Corps program. The questionnaire consisted of three major sections. The first section asked the individual to describe himself as he really is by marking 74 semantic differential scales. The second section asked the individual to describe their ideal person or the person they would really like to be by marking an identical set of 74 semantic differential scales. The third section was 41 forced-choice items measuring the internal vs. external locus of control developed by Rotter (1966) and Gurin, Gurin, Lao, and Beatie (1969).
3. The Affective Self-evaluation factor was comprised of bipolar adjective pairs or phrases such as appreciative-ungrateful, capable-incapable, childish-grown-up, considerate-don't care about others, reasonable-unreasonable, responsible-unresponsible, and accept who I am-dislike myself. The Interpersonal Competence factor was comprised of bipolar adjective pairs or phrases, e.g., I feel at ease around others-sometimes I feel uncomfortable around others, willing to be a leader-unwilling to be a leader, know how to act when meeting someone new-don't know what to do when meeting someone new, and talking to friends is easy-sometimes its hard to say what I want to my friends.
4. A list of 40 Ss was selected for each group in case some individuals could not be contacted due to a change in mailing address.

TABLE 1

ANALYSES OF VARIANCE: NINE DEPENDENT VARIABLES

		Performance			General Affective Tone			General Arousal		
Source	df	Mean Square	F	p	Mean Square	F	p	Mean Square	F	p
Reinforcement	1	2,821	5.25	.02	2.18	3.56	.06	3.30	2.42	ns
Self-esteem	1	300	.55	ns	4.23	6.89	.01	.06	.05	ns
R X S-e	1	243	.45	ns	.57	.93	ns	3.74	2.74	ns
Error	44	536			.61			1.36		

		Personal Competence			Interpersonal Attractiveness			Task Attractiveness		
Source	df	Mean Square	F	p	Mean Square	F	p	Mean Square	F	p
Reinforcement	1	.18	.32	ns	.002	.002	ns	7.32	5.94	.02
Self-esteem	1	6.14	10.64	.002	.005	.007	ns	.04	.03	ns
R X S-e	1	.48	.83	ns	.04	.06	ns	1.59	1.29	ns
Error	44	.57			.7			1.32		

		Personal Control-Control Ideology			Blame for Racial Discrimination			System Modifiability		
Source	df	Mean Square	F	p	Mean Square	F	p	Mean Square	F	p
Reinforcement	1	.40	3.09	ns	.23	1.86	ns	.01	.10	ns
Self-esteem	1	1.21	9.23	.004	.08	.64	ns	.56	4.38	.04
R X S-e	1	.18	1.40	ns	.20	1.67	ns	.22	1.78	ns
Error	44	.13			.12			.12		